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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,338	10/30/2003	Jon L. Nagel	2003-0211-US	7510

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EXAMINER	
AL NAZER, LEITH A	

ART UNIT	PAPER NUMBER
2821	

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/697,338	NAGEL ET AL.	
	Examiner	Art Unit	
	Leith A Al-Nazer	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17 and 19-27* is/are rejected.

7)☒ Claim(s) *18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Reference numbers 130, 132, 134A, 134B, 610, 612, 710, 712, 716, 810, 812, and 816 are not addressed in the specification.

Appropriate correction is required.

Allowable Subject Matter

2. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 7, 8, 14, 19-21, and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,404,394 to Hill.

With respect to claims 1 and 19, Hill teaches an antenna comprising a planar conductor (42), wherein the planar conductor is self-supporting (figure 2); and wherein the radiating pattern of the antenna is substantially isotropic (column 2, lines 37-47).

With respect to claim 7, Hill teaches the antenna further comprising a planar meander (46, 48, and 54 in figure 2).

With respect to claim 8, Hill teaches the dielectric material (40 in figure 2) being attached to the planar conductor.

With respect to claim 14, Hill teaches the antenna being vertically polarized (column 2, lines 37-39).

With respect to claim 20, Hill teaches the antenna comprising a mounting capable of being hand soldered into a personal computer board (column 3, lines 31-35).

With respect to claim 21, Hill teaches the antenna comprising a mounting capable of being screwed into a personal computer board (column 3, lines 31-35).

With respect to claims 24-26, Hill teaches an antenna comprising a planar conductor (42 in figure 2), wherein the planar conductor is self-supporting (figure 2); wherein the radiating pattern of the antenna is substantially isotropic (column 2, lines 37-47); and wherein the radio frequency performance of the antenna at 2.440 GHz is within three decibels of the radio frequency performance of a standard quarter wave isotropic antenna (column 1, lines 40-60). Claim 24 requires the antenna be no more than eight tenths of an inch in height. Although not explicitly stated, such a dimension is inherent in the disclosure of Hill (column 2, lines 6-14).

Claim 27 requires the antenna be no more than one half of an inch in height. Although not explicitly stated, such a dimension is inherent in the disclosure of Hill (column 2, lines 6-14).

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,806,831 to Johansson et al.

With respect to claim 1, Johansson teaches an antenna comprising a planar conductor (210 or 240), wherein the planar conductor is self-supporting (figure 2); and wherein the radiating pattern of the antenna is substantially isotropic (column 1, line 60 – column 2, line 12).

With respect to claims 2 and 3, Johansson teaches the antenna comprising substantially no dielectric material (column 2, lines 28-31).

With respect to claims 4-6, Johansson teaches the planar conductor comprising at least one metal (column 2, lines 28-31).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,404,394 to Hill in view of U.S. Patent No. 5,767,808 to Robbins et al.

Claim 9 requires the dielectric material comprise a conductive polymer. Use of such materials is well known in the art, as is evidenced by Robbins (column 3, line 65 – column 4, line 5). Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to utilize a conductive polymer in the system of Hill. The motivation for doing so would have been to provide a material with desired properties, such as a desired conductivity.

10. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,404,394 to Hill in view of U.S. Patent No. 5,767,808 to Robbins et al as applied to claim 9 above, and further in view of U.S. Patent No. 6,417,816 to Sadler et al or U.S. Patent Application Publication No. 2003/0071757 to Yamaki.

Claims 10 and 11 require the dielectric material short out a portion of the planar meander. Shorting out a portion of an antenna is well known in the art, as is evidenced by Sadler (column 3, lines 40-50) and Yamaki (4 in figure 1). At the time of the invention, it would have been obvious to one having ordinary skill in the art to utilize a dielectric material, such as that taught by Hill, to short out a portion of the antenna taught by Hill. The motivation for doing so would have been to provide means for altering the length of the antenna, and therefore, means for tuning the antenna.

Claim 12 requires the dielectric material form a device for matching the impedance of the antenna to a device other than the antenna. Impedance matching is well known in the art, as is evidenced by Sadler (column 1, lines 55-63). At the time of the invention, it would have been obvious to one having ordinary skill in the art to utilize a dielectric material to provide impedance matching. The motivation for doing so would have been to provide a material with desired properties, such as a specific resistance.

11. Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,404,394 to Hill in view of U.S. Patent No. 6,061,025 to Jackson.

Claim 13 requires the antenna further comprise integral electrostatic discharge protection. Such discharge protection systems are well known in the art, as is

evidenced by Jackson (column 10, lines 38-50). Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to utilize an electrostatic discharge protection system in the antenna taught or suggested by Hill. The motivation for doing so would have been to provide means for preventing damage to the antenna due to charge buildup.

12. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,404,394 to Hill in view of U.S. Patent No. 6,806,831 to Johansson et al.

Claims 15-17 require a secondary planar conductor be attached to the planar conductor. Using a secondary planar conductor is well known in the art, as is evidenced by Johnasson (figure 2). Therefore, at the time of the invention, it would have been obvious to one having ordinary skill in the art to utilize a secondary planar conductor in the system taught or suggested by Hill. The motivation for doing so would have been to obtain a desired radiation pattern.

13. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,404,394 to Hill in view of U.S. Patent Application Publication No. 2003/0210188 to Hebron et al.

Claim 22 requires the planar conductor be malleable. Hebron teaches such a planar conductor. At the time of the invention, it would have been obvious to one having ordinary skill in the art to utilize a malleable planar conductor, as taught by

Hebron, in the system of Hill. The motivation for doing so would have been to provide means for adjusting the overall shape of the planar meander.

With respect to claim 23, Hill teaches an antenna comprising a conductor, wherein the conductor is self-supporting; and wherein the radiating pattern of the antenna is substantially isotropic. Claim 23 requires the antenna conductor form a partially open cylindrical shape. At the time of the invention, it would have been obvious to one having ordinary skill in the art to utilize a malleable conductor, as taught by Hebron, in the system of Hill in order to form the conductor into a partially open cylindrical shape. The motivation for doing so would have been to form the conductor into a cylindrical shape in order to achieve desired results, such as a specific radiation pattern.

Citation of Pertinent References

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patent documents further show the state of the art with respect to self-supporting antennas comprising a planar conductor:

a. U.S. Patent No. 6,650,302 to Sanad

b. U.S. Patent No. 5,134,422 to Auriol

Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leith A Al-Nazer whose telephone number is 571-272-1938. The examiner can normally be reached on Monday-Friday, 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LA

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